given in the REVIEW for December, 1894. The precipitation for the current month was the greatest on record at: Jupiter, 6.27; Lexington, 5.50; Chicago, 6.76; Springfield, Ill., 8.08; Springfield, Mo., 11.02; Kansas City, 5.12; Miles City, 0.77; Astoria, 17.54. It was the least on record at: Minneapolis, 0.15; Sioux City, 0.02; Pierre, 0.01; Lander, trace.

Details as to *excessive precipitation* are given in Tables XIII and XIV.

The *total monthly snowfall* at each station is given in Table II. Its geographical distribution is shown on Chart No. VI. The southern limit of freezing temperatures and possible snow is shown on this chart by the isotherm of minimum 32°. The isotherm of minimum 40°, namely, the air temperature within the thermometer shelter, is also given on this chart, and shows approximately the southern limit of frost on exposed surfaces.

The depth of snow on the ground at the close of the month is shown on Chart VII.

HAIL.

The following are the dates on which hail fell in the respective States:

Arizona, 17. Arkansas, 20. California, 15, 16, 17. Delaware, 31. Georgia, 29. Illinois, 17. Kansas, 16. Nebraska, 16. South Carolina, 26. Texas, 18, 29. Washington, 12, 20, 21, 23, 27.

SLEET.

The following are the dates on which sleet fell in the respective States:

Alabama, 4, 12, 28, 30. Arkansas, 11, 20, 29, 30. California, 15, 19, 20. Georgia, 10. Idaho, 6, 25, 27. Illinois, 1, 10, 11, 19, 20, 22, 24. Indiana, 2, 11, 16, 21. Iowa, 1, 17 to 20, 24, 25, 28. Kansas, 1, 2, 17, 18, 19, 22, 24. Kentucky, 3, 8, 20, 25, 30. Louisiana, 20, 27, 29, 30. Maryland, 8, 21, 26, 28, 30. Michigan, 1, 12, 16, 17, 19, 23. Minnesota, 10, 16, 17, 21, 28. Mississippi, 20, 27, 29, 30. Missouri, 1, 11, 12, 17 to 20, 24, 25, 29. Montana, 14, 27. Nebraska, 20, 22, 23. Nevada, 17 to 20. New Hampshire, 22. New Jersey, 8. New York, 2, 6, 15, 17, 26, 27, 30, 31. North Carolina, 9, 10, 28, 30, 31. North Dakota, 9, 17, 28. Ohio, 2, 8, 12, 21, 25, 26, 27, 30, 31. Oklahoma, 2, 17, 19, 23. Oregon, 5, 12 to 16, 18 to 24, 27, 28, 29, 31. Pennsylvania, 2, 26, 30, 31. South Carolina, 4, 10, 27, 28, 31. Tennessee, 2, 28, 29, 30. Texas, 23, 25, 29. Utah, 13. Vermont, 26. Virginia, 9, 26, 30. Washington, 2, 5, 13, 15, 18, 19, 20, 22, 23, 26, 27, 29, 31. West Virginia, 26, 30, 31. Wisconsin, 11, 17, 19, 20, 25, 28.

WIND.

The *prevailing winds* for December, 1895, viz, those that were recorded most frequently, are shown in Table I for the regular Weather Bureau stations.

The *resultant winds*, as deduced from the personal observations made at 8 a. m. and 8 p. m., are given in Table IX. These latter resultants are also shown graphically on Chart II, where the small figure attached to each arrow shows the number of hours that this resultant prevailed, on the assumption that each of the morning and evening observations represents one hour's duration of a uniform wind of average velocity. These figures indicate the relative extent to which winds from different directions counterbalanced each other.

HIGH WINDS.

Maximum wind velocities of 50 miles or more per hour were reported at regular stations of the Weather Bureau as follows (maximum velocities are averages for five minutes; extreme velocities are gusts of shorter duration, and are not given in this table):

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
		Miles				*Miles*	
Block Island, R. I	11	68	ne.	Kittyhawk, N. C.	10	60	n.
Do	13	56	ne.	Do	13	66	n.
Do	14	60	ne.	Lexington, Ky	26	60	sw.
Do	27	55	sw.	Nantucket, Mass	11	51	e.
Do	31	57	sw.	New Haven, Conn	27	55	s.
Boston, Mass	31	50	s.	New York, N. Y	26	70	s.
Buffalo, N. Y	7	50	w.	Do	27	73	w.
Do	22	50	sw.	Do	30	50	se.
Do	31	78	w.	Do	31	72	w.
Cheyenne, Wyo	27	50	w.	Oswego, N. Y	31	50	w.
Chicago, Ill	11	54	ne.	Philadelphia, Pa	26	50	sw.
Denver, Colo	30	60	nw.	Portland, Oreg	31	53	se.
Eastport, Me	5	54	ne.	Pueblo, Colo	30	51	w.
Do	6	50	n.	Rochester, N. Y	31	52	sw.
Do	27	54	se.	Tatoosh Island, Wash	3	52	ne.
Do	31	54	se.	Do	11	50	s.
Fort Canby, Wash	2	52	e.	Do	14	52	sw.
Do	9	66	s.	Do	19	60	sw.
Do	11	60	s.	Do	22	60	s.
Do	14	55	s.	Do	23	69	w.
Do	19	60	s.	Do	25	52	w.
Do	22	60	s.	Do	26	56	s.
Do	23	70	s.	Do	27	52	w.
Do	25	50	s.	Do	31	58	s.
Do	26	56	s.	Williston, N. Dak	27	54	w.
Do	29	60	s.	Do	28	50	nw.
Do	31	72	s.	Do	29	52	nw.
Hatteras, N. C	10	60	n.	Winnemucca, Nev	15	54	sw.
Do	11	52	n.	Do	20	56	sw.
Do	13	56	n.	Do	28	58	nw.
Do	31	56	nw.	Woods Hole, Mass	6	52	nw.
Huron, S. Dak	15	52	se.	Do	27	54	se
Independence, Cal	28	53	n.	Do	31	66	sw.

SUNSHINE AND CLOUDINESS.

The quantity of sunshine, and therefore of heat, received by the atmosphere as a whole is very nearly constant from year to year, but the proportion received by the surface of the earth depends upon the absorption by the atmosphere, and varies largely with the distribution of cloudiness. The sunshine is now recorded automatically at 16 regular stations of the Weather Bureau by its photographic, and at 21 by its thermal effects. At one station records are kept by both methods. The photographic record sheets show the apparent solar time, but the thermometric sheets show seventy-fifth meridian time; for convenience the results are all given in Table XI for each hour of local mean time.

Photographic and thermometric registers give the duration of that intensity of sunshine which suffices to make a record, and, therefore, they generally fail to record for a short time after sunrise and before sunset, because, even in a cloudless sky, the solar rays are then too feeble to affect the self-registers. If, therefore, such records are to be used for determining the amount of cloudiness, they must be supplemented by special observations of the sky near the sun at these times. The duration of clear sky thus specially determined constitutes the so-called twilight correction (more properly a low-sun correction), and when this has been applied, as has been done in preparing Table XI, there results a complete record of clear sky from sunrise to sunset in the neighborhood of the sun. The twilight correction is not needed when the self-registers are used for ascertaining the duration of a special intensity of sunshine, but is necessary when the duration of cloudiness is alone desired, as is usually the case.

The cloudiness is determined by numerous personal observations at all stations during the daytime, and is given in the column of "average cloudiness" in Table I; its complement, or percentage of clear sky, is given in the last column of Table XI.

COMPARISON OF DURATIONS AND AREAS.

The sunshine registers give the *duration* of direct sunshine whence the percentage of duration of possible sunshine is derived; the observer's personal estimates give the percentage of *area* of clear sky. These numbers have been brought